

Remarks

Claims 1-12 are pending in the application. Claims 1-12 are rejected. All rejections are respectfully traversed.

Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Benveniste, U.S. Patent No. 7, 180,905 (Benveniste).

The access method described by Benveniste is conventional. Only a single beacon packet 142, encircled below, is transmitted by an access point (coordinator node) for any cycle period (frame), see Figures 1A and 4.

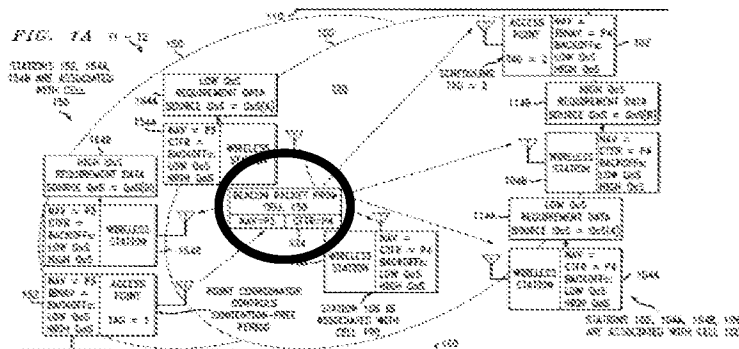
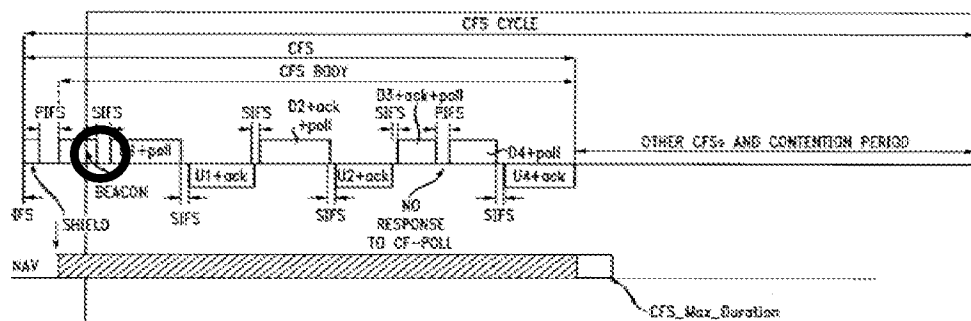


FIG. 4



At column 9, lines 23-42, Benveniste describes how only one beacon is sent for a cycle period or frame:

“The access point then transmits *a beacon packet* containing the inter-cell contention-free period value to member stations in the second cell. ... *The beacon packet* sent by the first access point station also includes an intra-cell contention-free period value, which causes the member stations in the first cell to delay accessing the medium until polled by the first access point.”

It is perfectly clear that there is only a single beacon signal sent by the access point for any cycle or frame. With all due respect, the Examiner’s restatement of Benveniste is incorrect.

There is no mention in the section cited by the Examiner that Benveniste includes “defining a start of a contention period and a start of a contention free period,” as claimed.

Furthermore, there is no indication that Benveniste broadcasts any beacon signal during the contention free periods as explicitly claimed in claim 1:

*“broadcasting a second beacon in a second signal format **during the contention free period.**”*

Furthermore, because there is only one beacon signal for each frame, it must have the same format. That there can only be one signaling format is supported by the fact that all stations can receive the beacon in Benveniste.

Benveniste cannot anticipate what is claimed.

In the traversal of the rejection for the following claims, the Applicant lets Benveniste speak for itself. From a correct reading of Benveniste, it is obvious that Benveniste cannot anticipate what is claimed.

The Examiner cites column 8, lines 22-31 as describing the limitation “in which the contention free period includes assigned and unassigned slots, and in which the second beacon is broadcast during time periods of unassigned slots.”

sible. Contention transmissions are attempted by stations based on their assigned priority. If a channel is busy at the designated start time for transmitting a PCFS, the PCFS is
25 shortened by the time lost. Subsequent PCFSs will not conflict, given a sequence of non-conflicting PCFSs. Since their previous PCFSs did not conflict, the follower AP's starting time is different from that of the leader's. The PCFSs will not conflict provided that the maximum duration of a
30 contention-free period (CFP) is less than CP/number of interfering BSS.

There is nothing in the above paragraph that indicates any of the limitations of claim 2.

With respect to claim 3, there is nothing in Benveniste that describes broadcasting a plurality of second beacons in a plurality of different signal formats during the contention free period.

With respect to claim 4, there is nothing in Benveniste that describes a predetermined first signal format.

10 An access point station **152** in wireless cell **150** is connected to backbone network **160** in FIG. **1**. The access point **152** signals the beginning of an intra-cell contention-free session (CFS) of FIGS. **3** and **4** for member stations **154A** and **154B** in its cell by transmitting a shield packet **118** during the period from **T0** to **T1**. The shield packet **118** or
15 **119** is a short packet, such as a Physical Layer Convergence Procedure (PLCP) header without the MAC data, as shown in FIG. **2A**. The shield packet **118** makes the wireless

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There is nothing in Benveniste that describes a first signal format for a beacons based on a bandwidth of terminals in the heterogeneous network.

Service) parameters. Prioritized packet scheduling, prefer-
60 ential packet dropping, and bandwidth allocation are among the techniques available at the various nodes of the network, including access points, that enable packets from different applications to be treated differently, helping achieve the different quality of service objectives. Such techniques exist
65 in centralized and distributed variations.

There is nothing in Benveniste that describes slots are assigned according to a bandwidth of terminals in the heterogeneous network.

Periodic contention-free sessions (PCFSs) provide regular access to the channel for periodic traffic. However, the use of PCFSs alone cannot provide efficient dynamic bandwidth allocation for maintaining quality of service (QoS). Contention-free sessions (CFSS) generated on a contention basis must complement PCFSs. PCFSs and CFSSs access the channel with the shortest Arbitration Interframe Space (AIFS). To be assured timely access, only PCFSs will attempt access of the channel during the inter-BSS contention period (IBCP). The time interval added at the close of the NAV QoS requirements are met by each AP scheduling

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There is nothing in Benveniste that describes where terminals of the heterogeneous network share a single frequency band.

The transmission of time-sensitive and data application traffic over a packet network imposes requirements on the delay or delay jitter, and the error rates realized; these parameters are referred to generically as the QoS (Quality of Service) parameters. Prioritized packet scheduling, preferential packet dropping, and bandwidth allocation are among the techniques available at the various nodes of the network, including access points, that enable packets from different applications to be treated differently, helping achieve the different quality of service objectives. Such techniques exist in centralized and distributed variations.

Management of contention for the shared transmission medium must reflect the goals sought for the performance of

There is nothing in Benveniste that describes a coordinator can communicate with any terminal in the network in any predetermined signal format.

be selected as one of several possible values. In one embodiment, the actual backoff time for each particular station is deterministically set, so as to reduce the length of idle periods. In another embodiment, the actual backoff time for 5 each particular station is randomly drawn from a range of possible values between a minimum delay interval to a maximum delay interval. The range of possible backoff time values is a contention window. The backoff values assigned to a cell may be in the form of a specified contention 10 window. High QoS data is typically isochronous data, such as streaming video or audio data, that must arrive at its destination at regular intervals. Low QoS data is typically

There is nothing in Benveniste that describes a first and second terminal communicate indirectly with each other via the coordinator terminals.

All stations listen to the channel; and when they receive the shield packet, they defer transmitting on what they 50 perceive to be a busy channel. The transmitting access point is thus assured that no other station will begin contending for the medium while the access point is sending a beacon packet. If another station and the access point have simultaneously begun transmission, then the benefit of the shield 55 packet is that the other station's (E)DCF transmissions colliding with the shield packet will cause postponement of the start of the CFS body by the access point until the channel is clear. The CFS is thus assured of no (E)DCF

Claim 10 is allowable. No reasons are given in the office action for rejection claim 10.

With all due respect to the Examiner, Applicants believe that this particular Office Action is inadequate. Random sections from the prior art reference

are cited, with no attempt to connect what is described in the prior art with what is claimed. The prior art is consistently misconstrued.

MPEP 2131 explicitly states that in order to anticipate a claim under 35 U.S.C. 102(e) “**each and every element as set forth in the claims** must be found in the prior art reference. The identical invention must be shown in as complete detail as is contained in the ... claim.” The Examiner’s rejections ignore the explicit limitations as recited in claims 1-12.

It is believed that this application is now in condition for allowance. A notice to this effect is respectfully requested. Should further questions arise concerning this application, the Examiner is invited to call Applicants’ attorney at the number listed below. Please charge any shortage in fees due in connection with the filing of this paper to Deposit Account 50-0749.

Respectfully submitted,
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